SHIPPING POD

TECHNICAL FIELD

The present invention relates to a shipping pod adapted for use on the bottom of vending machines and other relatively large objects.

BACKGROUND ART

It is often necessary to move or relocate vending machines or other large and heavy objects, whether it be from the manufacturer to the customer, or from the customer to a service facility. In particular, vending machines generally have four bolt holes for securing four leveling feet to the bottom of the machine with threaded fasteners such as bolts. The leveling feet typically do not provide for stable support when the machine is placed on an uneven floor or transport rack without time consuming readjustment of the feet. Also, many transport racks do not have a continuous floor surface to support the leveling feet. Therefore, to facilitate transporting and storing the vending machine, the vending machine is lifted and the bolts holding the leveling feet in place are removed.

A wooden plank (generally a 2"x 6" board with a length approximately the width of the vending machine) is sometimes used to provide a more stable footing for vending machines. Each wooden plank typically has two holes on the wider surface for receiving two corresponding bolts that hold the leveling feet in place on one side of the vending machine. The wooden plank is positioned so that each of the plank holes is over the bolt holes in the vending machine. The bolts are then threaded into the machine through the holes in the wooden plank thereby securing the wooden plank in place. A second wooden plank is then attached in a similar fashion to the remaining two bolt holes in the bottom of the vending machine. The vending machine with wooden planks attached is then lifted and placed on a wheeled rack for transport.

A first draw back of the prior art is that the height of the wooden planks typically does not allow fork lift tines to get underneath the vending machine to lift it, and therefore an overhead crane must be used to place the vending machine on the wheeled racks. Therefore, wheeled racks must be used to move the vending machine around the repair factory. Even if the fork lift tines are able to get underneath the machine, the fork lift would only be able to lift the vending machine from two out of the four sides because of the continuous length of the wooden planks.

A second drawback of the prior art is that the wooden planks are bulky and take up valuable factory space when they are not being used.

A third drawback of the prior art is that the wood planks are not durable and splinter and fall apart from repeated use and/or over tightening of the bolts and are subject to warpage and damage from exposure to water and other environmental conditions.

A fourth drawback of the prior art is that the wooden planks are not recyclable or re-usable.

Consequently, there is a need for a device which permits ease of transporting a vending machine. It should be durable, able to withstand varied environmental conditions, lightweight, reusable, recyclable, and easy to store when not in use.

DISCLOSURE OF INVENTION

It is a principal object according to the present invention to provide a shipping pod for vending machines which allows a forklift to lift a vending machine from all four directions.

It is another object according to the present invention to provide a shipping pod for vending machines which is capable of stacking and nesting with a like shipping pod to provide more efficient storage.

It is yet another object to the present invention to provide a shipping pod for vending machines which is robust, rigid, and able to withstand repeated use and varied environmental conditions.

It is yet another object of this invention to provide a shipping pod which is re-usable, and inexpensive and easy to manufacture.

Accordingly, a nestable shipping pod is provided for use on large objects such as vending machines having a bottom surface with a plurality of openings or bores for receiving a threaded member and an outside perimeter. The shipping pod includes a top wall for mating to the bottom surface of the large object. The top wall has an opening through which the threaded member is extended for attaching the shipping pod to the bottom surface of the large object. A perimeter wall extends downwardly and outwardly from the top wall. The perimeter wall has an exterior surface facing away from the top wall and interior surface facing inward. When like shipping pods are stacked, the interior surface of the upper shipping pod nests proximate the exterior surface of the lower shipping pod. The shipping pod preferably has an outer perimeter wall extending upwardly and outwardly from the perimeter wall. Further, the shipping pod may have a bottom wall which connects the perimeter wall and the outer perimeter wall.

In another embodiment, the shipping pod is provided and is adapted for use on vending machines having a bottom surface with at least one aperture to receive corresponding threaded members and an outside perimeter. This embodiment include includes a top wall for mating to the bottom surface of the vending machine. The top wall has a opening for receiving the threaded member for attaching the shipping pod to the bottom surface of the vending machine. An inner perimeter wall which extends downwardly and outwardly from the top wall. The inner perimeter wall has a bottom edge, an exterior surface facing away from the top

wall, and interior surface facing inward. An outer perimeter wall is spaced apart from the inner perimeter wall and is attached to the inner perimeter wall. The two walls define a pocket. This embodiment has a bottom wall for connecting the inner perimeter wall and outer perimeter wall.

In yet another embodiment of the present invention, a stackable shipping pod for use on relatively large objects having a bottom surface with a plurality of bores therein for receiving a threaded member and an outside perimeter is provided. The shipping pod includes a planar upper wall member for mating to the bottom surface of a vending machine. The upper wall member has an opening through which the threaded member is extended for attaching the shipping pod to the bottom of the vending machine. A sidewall member extends downwardly from the periphery of the upper wall member. The sidewall member and the upper wall member define a compartment. When in a stacked orientation, the compartment of the shipping pod receives the upper wall member of a second shipping pod.

The sidewall is preferably a double-wall construction having an inner wall member and an outer wall member. A bottom wall connects the inner wall member and the outer wall member, and provides a surface for resting upon a floor or other planar surface upon which the vending machine may be placed.

For each of the embodiments, the shipping pod also preferably includes a plurality of gussets between the inner wall member and the outer wall member to add rigidity and support to the shipping when it is under load. Each of the embodiments also preferably includes an anti-slip or anti-rotation portion cooperating with the top surface of the shipping pod, such as protrusions or a scuffed surface, to enhance contact to the bottom surface of the vending machine and prevent rotation. The shipping pod according to the present invention is preferably sized to extend the beyond the outside perimeter of the vending machine to prevent adjacent vending machines from bumping into each other during transportation or while in the factory. Still further, the top wall may further include an undersurface having ribs to deter bolt wear and to add strength and rigidity to the shipping pod. Additionally,

the pod includes a handle, preferably contoured and formed on the outer perimeter wall to facilitate handling of the shipping pod.

In still another embodiment, the shipping pod includes a grommet in the opening to minimize the rotation of the shipping pod when installed on the large object or vending machine.

The above objects then other objects, features, and advantages of the present invention are readily apparent from the following detailed description of the best mode for carrying out the invention when taken in connection with the accompanying drawings wherein like reference numerals corresponds to like components.

BRIEF DESCRIPTION OF DRAWINGS

FIGURE 1 is a top perspective view of a shipping pod according to the present invention;

FIGURE 2 is a top plan view of the shipping pod of Figure 1;

FIGURE 3 is a bottom perspective view of the shipping pod of Figure 1;

FIGURE 4 is a bottom plan view of the shipping pod of Figure 1;

FIGURE 5 is a top perspective view of a second embodiment of a shipping pod according to the present invention showing protrusions formed on the top wall and a bolt through the opening;

FIGURE 6 is an alternate top perspective view of the second embodiment of the shipping pod;

FIGURE 7 is a top perspective view of two shipping pods similar to those in Figure 5, nested together;

FIGURE 8 is a cross-sectional view showing two shipping pods similar to those in Figure 7 nested togther;

FIGURE 9 is a perspective view of a vending machine with four shipping pods, similar to those in Figure 5, attached thereto, the vending machine having a cutaway section showing the attachment of the pod to the vending machine.

FIGURE 10 is a top view of a third embodiment of a shipping pod according to the present invention having protrusions and drainage holes;

FIGURE 11 is a perspective view of a cross-section of a fourth embodiment of the shipping pod according to the present invention, taken across the transverse centerline of the pod, and having a grommet disposed therein;

FIGURE 12 is a front elevational view of the fourth embodiment of Figure 11;

FIGURE 13 is a top plan view of the fourth embodiment of Figure 11; and

FIGURE 14 is a side elevational view of a fourth embodiment of the shipping pod having a grommet disposed in the opening.

machines from bumping into each other during transportation and causing damage. Further, the 3.25 inch height of the shipping pod is sufficient to allow fork lift tines to get underneath the vending machine to pick it up and transport the vending machine without the need for wheeled racks. However, the vending machine with the shipping pod according to the present invention may also be placed on wheeled racks for transport.

While embodiments of the invention have been illustrated and described, it is not intended that these embodiments illustrate and describe all possible forms of the invention. Rather, the words used in the specification are words of description rather than limitation, and it is understood that various changes may be made without departing from the spirit and scope of the invention.

BEST MODE FOR CARRYING OUT THE INVENTION

With reference to Figures 1 and 2 of the drawings, a shipping pod 10 according to the present invention is illustrated therein. As shown in Figure 9, the shipping pod 110 (similar to shipping pod 10) is adapted for use on a relatively large, bulky or heavy object, such as a vending machine 5, which has an outside perimeter 6 and a bottom surface with a plurality of bores or apertures 3 formed therein, preferably threaded (illustrated in the partial cut-away section of Figure 9), previously used to receive corresponding threaded members and secure the wood leveling feet of the prior art (not shown). Generally, as heretofore described, vending machines in the prior art use wood leveling feet attached to the vending machine with bolts.

Shipping pod 10 disclosed herein is not limited to use on vending machines, but may be adapted to be used on any number of large objects according to the teachings of the present invention, for example, appliances such as clothes washing machines and dryers, automatic dishwashers, and the like. The shipping pod embodiments disclosed herein are preferably injection molded from a thermoplastic material, such as polyethylene, but may be alternatively formed out of other plastic materials, rubber materials, composite materials, and/or by different manufacturing processes without departing from the teachings according to the present invention.

Shipping pod 10 includes a top wall 11 with an opening 12 therein. Although opening 12 is shown as an elongated slot through top wall 11, it may be round, square or otherwise shaped. Also, depending on the use and application of the pod, and the deviation required by such use, it is further contemplated that opening 12 may be two or more separate openings, such as two or more individual holes, or may also be one or more half-slot portions. As shown in Figure 5, opening 12 is sized to receive the shank 7 of fastener 8 such as a threaded bolt, in order to attach shipping pod 10 to vending machine 5, as shown in Figure 9.

For additional strength and rigidity, shipping pod 10 may also include a plurality of gussets 25 between inner perimeter wall 14 and outer perimeter wall 22, as shown in Figure 1. Further, a handle portion 30 may be provided on shipping pod 10 by reducing the height of upper edge 24 of outer perimeter wall 22 to make it easier for a user to pick up or otherwise handle the shipping pod 10. In this embodiment, it is noted that no gussets 25 are placed adjacent handle 30. Outer perimeter wall 22 may also be stamped or screened with a brand name, company or logo which is related to the manufacture, distributor or supplier of products contained in vending machine 5, the vending machine 5 itself, or the pod 10.

Referring to the bottom perspective view of Figure 3 and the bottom plan view of Figure 4, top wall 11 may have an undersurface 26 which has a plurality of ribs 28 formed therein for added strength and rigidity and also to deter bolt wear when shipping pod 10 is attached to vending machine 5 (see Figure 9.)

Another embodiment of the pod according to the present invention is disclosed in Figures 5-8 and is designated as pod 110. The features of Figure 5-8, which are similar to the embodiment of Figures 1-4 are designated by like reference numbers having a "1" prefix added thereto. As best shown in the cross-sectional views of Figure 8, the pod according to the present invention includes an inner perimeter wall 114 which extends downwardly and outwardly from top wall 111. Inner perimeter wall 114 has an exterior surface 116 facing away from top wall 111, and an interior surface 118 facing inward (shown in Figures 3 and 8). As illustrated in Figure 8, surface 126' and wall 114' of pod 110' define a tapered area, compartment 117', which receives upper surface 111 of a subjacent pod 110 during a nesting orientation when the pods are not in use, thereby allowing for compact storage.

In keeping with the teachings of the present invention, Figures 5-8 illustrate that top wall 111 further includes at least one anti-slip member or anti-rotation member, such as a plurality of protrusions 127 shown in the Figures 5-9, disposed across its upper surface in order to enhance contact with the bottom surface of the vending machine 5 in order to prevent rotation or slippage.